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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,080

10/02/2006

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59482.21860

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30734 7590 05/11/2009
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EXAMINER

BROOKMAN, STEPHEN A

ART UNIT

PAPER NUMBER

3644

MAIL DATE

DELIVERY MODE

05/11/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,080	Applicant(s) HUBER, THOMAS	
	Examiner Stephen Brookman	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-17,19-21 and 24-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-17,19-21 and 24-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “pre-fabricated floor module...comprising supporting beams” as in Claim 21 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. It should be noted that the drawings do not show supporting beams being part of a pre-fabricated floor module (i.e. 70). The supporting beams are part of the aircraft.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The amendment filed March 2, 2009 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the term "EE Rack" was not previously designated as an "electronic equipment rack" and one of ordinary skill in the art would not have been able to assume that EE meant "electronic equipment."

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In particular, the term "electrical equipment rack" which was originally "EE rack," is new. Further, as in Claim 27, the step of assembling the "floor element, said supporting beams and said sections of conducting

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devices" *outside* the aircraft is new. The examiner notes that the supporting beams are part of the aircraft and it was not previously disclosed that the beams are attached to the floor modules outside of the aircraft.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "the parts of the aircraft defining said cargo compartment" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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8. Claims 21, 24-26, and 33-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Prochaska (U.S. Patent 6,659,402).

Prochaska teaches a pre-fabricated floor module (i.e. the elements are at least partly molded or constructed prior to final assembly within the aircraft) for installation into an aircraft and a method of providing a cargo deck in an aircraft, comprising installing the following elements:

- A prefabricated floor element (26) having elements for transporting and securing freight (i.e. seat 32 is capable of transporting and securing freight)
- Supporting beams connected to the floor element and adapted for connection to a skin of an aircraft to form at least part of a cargo compartment floor (i.e., at least, inherent in modern aircraft supporting beams support a floor and are connected to the aircraft assembly)
- Sections of conducting devices located in the floor module (i.e., electrical connector 56, air connector 54)
- Wherein each section is configured and adapted for connection with another section of the same kind in an adjacent floor module (Figure 1, Column 4, lines 43-50)
- and wherein a plurality of assembly elements are provided to connect each of the floor elements to adjacent floor elements during or after installation of the aircraft (i.e., contours 34 and 36 of Prochaska are

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assembly elements, linking the prefabricated floor modules to adjacent floor modules during installation)

- wherein the conducting devices include electrical leads (56)
- wherein one of the elements for transporting and securing freight (i.e. the seat) is a latch (Figure 6, the seat having a latch)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDonough et al (U.S. Patent 3,381,921).

McDonough teaches an aircraft (and a method of installing functional units in an aircraft) comprising:

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- A cargo compartment (Figure 1, inside fuselage 10) having a cargo compartment floor (14)
- A pallet (30 or 44d) supporting functional units (i.e. passenger seats 34 in Figure 1 or cargo 46 in Figure 2, which are thus provided), the pallet adapted for transportation of the functional units into the cargo compartment and being provided with a fixation means that provides a stable connection to the cargo compartment floor (i.e. latches 42 in Figure 1, column 4, lines 3-11, or cargo pallet locks 28, Figure 2, column 4, lines 26-31).

McDonough does not expressly disclose the functional units being selected from a group consisting of a water tank, a waste-water tank, and an electrical equipment rack. However, the examiner takes Official Notice that electrical equipment racks are often shipped by air from an origin to a destination in the form of cargo and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to ship electrical equipment racks in the cargo containers (46, Figure 2) of McDonough, for the purpose of providing a stable fixed support of the racks within the cargo containers during shipment. The pallet of McDonough would therefore support the functional unit and would be adapted for transporting it into the cargo compartment. As the cargo of McDonough is mounted on the pallet outside of the aircraft (Figure 2), the functional unit (electrical equipment rack being transportable cargo) is mounted on the pallet outside of the aircraft and loaded into the aircraft on the pallet and

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moved/transported over the floor to a destination site in the compartment (Figure 2 shows this progression) and fixing the unit at the destination site (i.e. using the latches/locks above).

12. Claims 1-3, 5-17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDonough et al (U.S. Patent 3,381,921) in view of Prochaska (U.S. Patent 6,659,402) and Pompei et al (U.S. Patent 5,083,727).

Regarding Claims 1 and 2, McDonough teaches the elements above in the previous rejection of Claim 1 but does not expressly disclose the functional unit being selected from the group consisting of a water tank, a waste-water tank, or an electrical equipment rack, or that at least one of the pallet and the cargo compartment floor comprises connecting devices adapted to join a connection lead of the functional unit to a corresponding connection lead of the aircraft.

However, Prochaska and Pompei et al cure this deficiency.

Prochaska teaches a modular aircraft seat system wherein the pallet or modular cargo-compartment floor (i.e., base panel 26) features a connecting device (i.e., electrical connector 56, air connector 54) for the purpose of connecting the pallets/floor modules together and capable of connecting to corresponding connection leads of the aircraft for ease of installation and without a need for altering, rewiring, or rerouting aircraft support devices (column 4, lines 5-8, 55-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include connecting devices capable of joining a

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connection lead of the functional unit to a corresponding connection lead, as taught by Prochaska, in the invention of McDonough et al., for the purpose of connecting the pallets/floor modules together and for predictable ease of installation and without the need for alteration or rewiring.

As Prochaska and McDonough, while teaching modularity in seats and cargo construction using pallets, do not teach a specific functional unit being a water tank or a waste-water tank or an electrical equipment rack, Pompei et al teaches modular aircraft interior construction featuring the capability of selectively locating functional units (i.e. galley 14 having wastewater tank 38 and sink 56 being a waste-water tank) with structurally equivalent modular tracks and utility pathways for the purpose of providing reconfigurable abilities to the aircraft (abstract and Column 2, lines 48-62).

Therefore, in view of the pallet systems of McDonough et al and Prochaska (having utility conduction devices), it would have been obvious to one having ordinary skill in the art at the time of the invention to further feature functional units like galleys and waste-water tanks on a pallet system of McDonough with conducting devices as taught by Prochaska and Pompei et al, for the purpose of providing a modular and reconfigurable aircraft interior system using the old and well known pallet structure taught by Prochaska and McDonough. As rendered obvious, this structure includes connecting devices of Prochaska to connect to the aircraft, as taught above.

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With regard to Claim 3, McDonough et al. further teach the cargo compartment comprising guide means adapted to guide the functional unit (i.e., rail assemblies 22 along wall of fuselage 10).

With regard to Claims 5-7, the invention of McDonough in view of Prochaska and Pompei et al features at least one section of a partition (i.e. counter 48 in Figure 2 of Pompei et al, or simply a portion of the pallet of McDonough), on which is mounted the wastewater tank/sink (56 of Pompei et al). This counter is mounted to the galley (14 of Pompei) and therefore comprises sealing means (i.e. attachment devices of some sort) whereby it is sealed to the parts of the aircraft defining said cargo compartment (i.e. it is attached somehow to the aircraft via all of the sealing and attachment structure of 14 of Pompei).

With regard to Claim 8, McDonough et al. do not expressly disclose discrete floor elements connected to the supporting beams to form prefabricated floor modules. However, Prochaska teaches the modular aircraft seat system in which the seats (24) are mounted to floor elements (i.e., base panel 26) that are connected to the supporting beams of the aircraft (i.e. any interior structural beams within the aircraft which are inherent in modern aircraft fuselages) to form prefabricated (i.e. they are produced/fabricated at least in part before installation into the aircraft) floor modules for the purpose of creating a modular aircraft interior for ease of installation and reconfiguration without major alterations to

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aircraft wiring or support devices. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of McDonough et al. such that the pallets (30 of McDonough et al.) define additional floor modules with connecting elements, as taught by Prochaska, and connected to the supporting beams via the under-floor of McDonough et al. (14) for the predictable purpose of creating a modular aircraft interior without major complications or alterations, as furthermore taught by Prochaska. This structure is further modified and rendered obvious above by the inclusion of a modular galley on the pallets as taught in the rejection of Claim 1.

With regard to Claim 9, sections of conducting devices comprising electrical leads (56) are provided in the floor modules of Prochaska (Figure 2) in such a way that those in one floor module connect with others of the same kind in adjacent floor modules to form overall conducting systems on installation in the aircraft (i.e., as seen in Figures 1 and 8 and described in column 4, lines 43-61).

With regard to Claim 10, the conducting device of Prochaska (56) comprises a branch adapted for connection to a prespecified place on the floor element (26, the connection being a structural connection in the form of 56 mounting to 26) and the functional unit (i.e. as in Prochaska's seat 24, branch connections seen in Figure 7, wherein the lead branches through the floor element 26 and into the seat harness 100, and when the seat is replaced with a galley system 14 of

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Pompei et al, this connection would be made to the galley functional unit and the wastewater tank).

With regard to Claims 11-13, McDonough et al. as modified by Prochaska and Pompei et al teaches the aircraft according to Claim 8 as rejected above wherein the cargo-compartment floor comprises a plurality of prefabricated floor modules (inherently, being fabricated prior to installation) and wherein a plurality of assembly elements are provided to connect each of the floor modules to adjacent floor modules during or after installation of the aircraft (i.e., contours 34 and 36 of Prochaska are assembly elements, linking the prefabricated floor modules to adjacent floor modules during installation). The assembly elements of the floor elements (34 and 36 of Prochaska) are sealing devices adapted to seal off a space above the floor elements from a space defined below them (i.e., as in column 4, lines 41-42, wherein there is no gap between the base panels/floor elements 26, inherently sealing off a space above the floor elements from the space below). Having no gap between the elements forms a leakproof connection between them.

With regard to Claim 14, Prochaska teaches the air connector (54 of Prochaska) capable of performing the duty of being a drainage device and capable of carrying a liquid out of the cargo compartment and to transfer the liquid into a corresponding drainage device of an adjacent floor module (i.e., as the base

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panels 26 connect together to interconnect the connectors 54 together, which function as tubular plumbing systems capable of performing the claimed function). Further, Pompei et al teaches drainage devices (drain 216 as part of the storage tank 212 which is emptied with the drain when the cart is removed from the cargo compartment and is capable of moving the liquid to another drainage device, Column 9, lines 5-11 of Pompei et al).

With regard to Claims 15-16, the floor modules as taught by McDonough et al. as modified by Prochaska and Pompei et al inherently feature insulating devices, as any of the provided elements function as insulators to some degree, including any insulation on the electrical wiring or the modules themselves, functioning to insulate a lower portion of the aircraft, either from heat or from electrical conductivity. The insulating devices/electrical insulators/floor modules acting as insulators are attached in the region of the supporting beams near to the skin of the aircraft.

With regard to Claim 17, the invention of McDonough in view of Prochaska and Pompei et al includes a partition wall and a fixation device for a partition wall (i.e. as in Figure 2 of Pompei et al, the galley having the wastewater tank has a partition wall/sidewall and inherently has a partition wall fixation device for mounting to other walls or the upper ceiling, all of these items being part of and on the floor module as rendered obvious in Claims 1 and 8).

Regarding Claims 19, 20, and 37, all of the structure of Claim 1 is provided by McDonough in view of Prochaska and Pompei et al as taught above. This structure further renders obvious the method of installing functional units, as the elements are provided, and just as the cargo containers of McDonough are loaded external to the aircraft (Figure 2), it would have been obvious to build the pallets of Prochaska having the galley devices of Pompei et al outside of the aircraft and then load the pallet with functional devices/galley/wastewater tanks onto the aircraft and guide it to a destination site and fix it to the destination site, as this concept is taught with the structure as rejected above in Claim 1 and it allows aircraft producers to build elements in a modular style rather than within the aircraft. The invention of McDonough in view of Prochaska and Pompei et al is constructed external to the aircraft just as the cargo containers of McDonough are loaded external to the aircraft. This includes the partition walls of Pompei et al taught above, which are constructed outside of the aircraft and therefore it would have been obvious to install them on the pallets outside the aircraft. Specifically regarding Claim 37, Pompei et al do not expressly disclose connecting a connection lead or pipe from the galley/wastewater tank to a corresponding connection or lead below the cargo-compartment floor, however, this art does disclose the corresponding connections above the floor and in the ceiling, as shown in Figure 2. Therefore, in the construction taught above in the rejection of Claim 1, it would have been obvious to one having ordinary skill in

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the art at the time of the invention to place these connections below the cargo-compartment floor in order to take advantage of the modular connections provided by Prochaska and for providing more ceiling space.

13. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prochaska (U.S. Patent 6,659,402).

Regarding Claim 26, Prochaska teaches the seat for transporting freight (i.e. passengers or passengers having freight in the form of personal belongings).

However, as it is a seat, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a seatbelt with a latch for the purpose of safety and retention during transport.

14. Claims 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prochaska (U.S. Patent 6,659,402) in view of McDonough et al (U.S. Patent 3,381,921).

Regarding Claims 27 and 28, Prochaska teaches providing the structure of Claim 21 as rejected above but does not expressly disclose assembling all of the elements external to the aircraft. However, McDonough teaches assembling modular floor elements outside of the aircraft for the purpose of enhanced reconfigurability. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to assemble the elements outside of the aircraft for the purpose of providing modularity and reconfigurability to the

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invention of Prochaska. After such assembly, it would be installed into the aircraft.

Regarding Claim 29, each section is configured and adapted for connection with another section of the same kind in an adjacent floor module (Figure 1, Column 4, lines 43-50), as described above in the rejection of Claim 21.

Regarding Claim 30, the conducting devices include electrical leads (56) as described in the rejection of Claim 21.

Regarding Claim 31, one of the elements for transporting and securing freight (i.e. the seat) is a latch (Figure 6, the seat having a latch).

15. Claims 32 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prochaska (U.S. Patent 6,659,402) in view of McDonough et al (U.S. Patent 3,381,921) and Grueber et al (U.S. Patent 3,753,541).

Neither Prochaska nor McDonough et al expressly discloses the supporting beams spanning an entire width of the cargo deck transverse to a longitudinal direction of the aircraft. However, Grueber et al teaches this, as supporting beams (18) span *an* entire width of a cargo floor (i.e. from one side of platform 16 to another side of platform 16). As it is necessary to supply ample structural

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support for a floor, it would have been obvious to one having ordinary skill in the art at the time of the invention to have the beams of Prochaska and McDonough span the width of the floor.

Response to Arguments

16. Applicant's arguments filed March 2, 2009 have been fully considered but they are not persuasive.

Regarding applicant's arguments on page 11 that Prochaska's seat assemblies are separate from the cargo deck, the examiner notes that they are part of the aircraft structure as presented above in the claim rejections.

Regarding applicant's arguments in paragraph 2 of page 11 that McDonough does not teach functional units, this argument is rendered moot in view of the rejection above for claim 1 with regard to McDonough.

Regarding the applicant's request for support that "no gap" constitutes a leakproof connection, the examiner notes that in basic connections between two elements, if there is no gap, there is no space for substances or materials to pass through the connection, and therefore this is leakproof, as a leak constitutes materials passing through the connection, which is not the case in elements lacking a gap in their connection.

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Regarding the applicant's argument in paragraph 3 of page 11 that Prochaska does not teach the panels being connected to the supporting beams of the aircraft to form prefabricated floor modules, the examiner notes that supporting beams are inherent in modern aircraft and by being within the aircraft structure, connection is also made. Any elements are "prefabricated" by being made in whole or in part before being placed in the aircraft. Reference the rejection of Claims 11-13 above. The structural limitations of the claim are still met, regardless of the order of installation.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Brookman whose telephone number is (571) 270-5513. The examiner can normally be reached on Monday through Thursday 10:00 AM EST to 4:00 PM EST, away alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on (571) 272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. B./
Examiner, Art Unit 3644

/Michael R Mansen/
Supervisory Patent Examiner, Art Unit 3644